

APPENDIX 21

TESTIMONY OF BRENT L. FULTS
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BEFORE THE
WATER AND WILDLIFE SUBCOMMITTEE
COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS
U.S. SENATE

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Senator Cardin and Members of the Subcommittee, I am Brent L. Fults, Managing Member of the Chesapeake Bay Nutrient Land Trust, LLC (CBNLT). Thank you for the opportunity to discuss an important market-based approach to reducing the level of nutrient pollution entering the Chesapeake Bay and its tributaries. The Chesapeake Bay is a national treasure, and we are all familiar with the critical ecological, economic, cultural and recreational benefits the Bay provides to those of us in its watershed. We are also familiar with the environmental challenges faced by the Bay, most notable of which is the unsustainable loading of sediment and nutrients into our waterways. Stemming from population growth, increases in development and impervious surfaces, historical agricultural practices, discharge from wastewater treatment and industrial facilities and atmospheric deposition, current levels of these pollutants have contributed heavily to degraded water quality and reduced habitat for many species of fish and shellfish and aquatic dependent ecosystems. The current state of the Bay has resulted in millions of dollars in lost revenue for states, localities and private businesses. My testimony will provide a brief history of the nutrient trading programs in Virginia, the milestones the Commonwealth of Virginia has achieved, the role that CBNLT has played in the development of those programs, and the importance of innovation and private, market-based solutions to the environmental challenges faced by the Chesapeake Bay.

I graduated from Ball State University in 1986 with a Bachelors of Landscape Architecture and am currently a Virginia Certified Landscape Architect. A resident of Virginia for 22 years, I worked for 13 years as an environmental consultant with private business specializing in land planning, development projects and regulatory permitting. Along with my business partner Mike Stegman, I founded EarthSource Solutions, Inc. (ESS) in November of 2000. ESS is a provider of environmental credits and permit liability solutions in Virginia, specifically through the ownership and management of environmental banking facilities. Over the past 9 years, our environmental projects have supported ecosystem restoration by providing functioning compensatory mitigation for wetlands and streams in multiple Virginia watersheds. ESS provides ownership and/or joint management of 5 operational

wetland and stream banks in multiple Virginia watersheds, and has been a forerunner in innovative resource projects adapting to the evolving regulatory environment supporting environmental credit markets.

The following sections of this testimony will discuss:

- Creation of Chesapeake Bay Nutrient Land Trust, LLC;
- The Virginia point source nutrient trading program;
- Evolution of the nutrient market from point source to nonpoint source;
- Passage of the nonpoint nutrient Offset legislation;
- Development of nonpoint nutrient Offset guidance;
- Benefits of Offsets; and
- Moving Forward.

Chesapeake Bay Nutrient Land Trust, LLC

As a response to the public, governmental and our own personal interest in improving the water quality of the Bay, ESS founded Chesapeake Bay Nutrient Land Trust, LLC (CBNLT) in August of 2006. Through the combined resources of CBNLT and ESS, we provide land stewardship strategies that will reduce nutrient loads and generate nonpoint nutrient offsets (Offsets). These Offsets are similar in concept to other types of environmental credits and represent on-the-ground nutrient reductions that are in place in advance of the need for their use. CBNLT believes in innovative and adaptive nutrient reduction strategies that are pre-implemented in order to begin improving the health of the Bay immediately. We strive to encourage environmental stewardship and the development of partnerships with landowners, federal, state and local governments and other stakeholders in order to create long-term and effective solutions to complex environmental issues. The following sections detail the origins of Offsets as a nutrient-reduction mechanism and a brief history of the nutrient trading programs in Virginia.

Point Source Nutrient Trading Program – Virginia Department of Environmental Quality

The Chesapeake Bay Watershed Nutrient Credit Exchange Program (Code of Virginia §§62.1-44.19:12 et seq.) was created in July of 2005 when the Virginia legislature enacted legislation aimed at reducing the levels of nitrogen and phosphorus entering the Chesapeake Bay through its numerous tributaries. The Patron of the legislation was Delegate Preston Bryant, who is now Virginia's Secretary of Natural Resources. The statute addressed nutrient pollution from point source dischargers, consisting primarily of wastewater treatment plants and industrial facilities. This legislation also provided the opportunity to

develop, certify and operate Offset-generating facilities that allow new and expanding point source dischargers to achieve nutrient discharge requirements through the purchase of Offsets.

One of the initial activities of CBNLT was to participate in the Virginia Department of Environmental Quality (DEQ) Technical Advisory Committee (TAC) meetings regarding the development of the point source nutrient trading regulations. Following the regulatory TAC, CBNLT participated in DEQ workgroup meetings that developed guidance regarding the creation of Offsets and established the mechanics by which Offsets may be used. The DEQ guidance currently only addresses Offset generation from agricultural land; however, we continue as a stakeholder to explore additional opportunities to create nutrient reductions. Offsets are jointly certified by the DEQ and the Virginia Department of Conservation and Recreation (DCR), and are generated through implementation of adaptive strategies including land use conversion, land use alterations and the implementation of varied Best Management Practices.

It is important to mention that the nutrient reductions that generate Offsets are above and beyond what is required by or funded under existing state or federal law and the Tributary Strategies. Offsets represent *delivered* loads to the Bay, and therefore already take into account the natural attenuation of nutrients as they move through an aquatic system. The number of Offsets created under the DEQ program was determined through the application of the Bay Model, and nutrient reductions were computed for each tributary based on a variety of land conversion or agricultural BMP practices. The reductions were further averaged into two regions: east and west of the fall line. The result of this methodology is that the nutrient reductions and associated Offsets created through this program are conservative in nature, and may not accurately reflect the full reduction in nutrients taking place.

In September of 2008, CBNLT became the first private entity in Virginia to generate certified Offsets. These initial Offsets were jointly authorized by both DEQ and DCR for use in the existing DEQ point source program and were generated through land conversion practices on a 904± acre farm located in Appomattox County and known as "Wildwood Farm". To provide some background, Wildwood Farm has been family owned for over 100 years and consistently managed for silvicultural, agricultural and livestock production, with an ingrained stewardship mentality. The landowner and ESS became acquainted in the 1990's and beginning in 1999 developed a stewardship plan for the property that would enable the landowner to meet his desire for the property to retain its rural character and generate an environmentally conscious source of income that would hold off development sale as a legacy. In 2005, the landowner and ESS established the Wreck Island Stream Bank (WISB) within the property. WISB encompasses all onsite streams and associated riparian buffers ranging up to 300 feet per side for a total bank area of 261± acres. The enhancement and preservation of these systems has led to the generation of stream credits that are used to compensate for authorized impacts under state and federal permits.

Subsequent to the development of the stream bank, the landowner allocated an additional 110± acres to the generation of the nonpoint nutrient Offsets. Specifically, 91± acres of hay production were converted to forest and 19± acres of active cropland were converted to hay production. Together, these conversions annually reduce nutrient loading from the site by approximately 100 pounds of phosphorus and 376 pounds of nitrogen. These reductions in turn created a corresponding number of Offsets that may be used to compensate for nutrient-related pollution to tributaries of the Bay. This project has served as a model for the preservation of land based on stewardship and the creation of an environmental legacy.

Transition to Legislative Effort

Shortly after the DEQ nutrient trading program became active, it became apparent that the market for Offsets as a tool to address point source nutrient pollution was going to be extremely limited, and for the near-term, nonexistent. The enabling legislation created a nutrient “exchange” where point source facilities could trade excess allocation to each other. From a technology-based standpoint, the cost of reducing nutrient effluent by one pound is incremental compared to the cost of reducing stormwater runoff by one pound of nutrients. The difference in cost structures was significant: point sources could trade between one another for a couple dollars a pound, whereas the costs associated with reducing nutrient loading by one pound from an acre of farmland can run into the thousands of dollars. The costs associated with creating an Offset include not only the nutrient reducing activity itself (ex: land conversion of cropland to forest), but also compensation for the landowner and/or farmer for the perpetual loss of future income derived from historic land use or potential development opportunities.

This lack of a point source market, combined with the importance of addressing nonpoint source nutrient contributions to the Bay, created the need to expand the applicability of Offsets to nutrients associated with stormwater from development projects. At question was whether reducing nutrient pollution from stormwater runoff required an addition to the suite of management tools. During conversations with localities and DCR, it became obvious that to provide the clear legal authority for Offset use in a stormwater context, CBNLT would have to support a legislative effort to enable the use of Offsets to address nonpoint nutrient pollution in Virginia.

Nutrient Offset Legislation – DCR Stormwater Program

In order to support the development of a nutrient Offset market in Virginia, CBNLT initiated and supported nutrient Offset legislation (HB2168) in the 2009 Virginia General Assembly session that provides the clear legal authority to use Offsets as a method to address nutrient pollution from development projects. The legislation was introduced by Delegate Watkins Abbitt and cosponsored by Delegate David Boluva. CBNLT, with the counsel of Shannon R. Varner, Esquire, of Troutman Sanders

LLP, worked with the Secretary of Natural Resources office, DCR, the Chesapeake Bay Foundation, the James River Association, local government associations, the development community and other stakeholders in the crafting of the final language regarding the use of Offsets for mitigating all or a portion of permitted stormwater phosphorus requirements placed on a development project by DCR and individual localities. The resulting legislation received bipartisan support and was unanimously passed by both the Senate and the House of Delegates, exemplifying how a solution to a complex environmental problem could be embraced by all people and political parties. The legislation was signed into law and subsequently took effect on July 1, 2009.

There are several important points of note regarding the legislation, including:

- Unanimous approval of the legislation in Subcommittees, Committees, and the full House of Delegates and Senate;
- Offsets must be generated in the same tributary as the permitted activity;
- Offsets may not be used to address water *quantity* requirements;
- Offsets may not be used in contravention of local water quality requirements, including laws or regulations regarding Municipal Separate Storm Sewer Systems (MS4s), TMDLs, or impaired State waters; and
- Permit applicants must demonstrate to the permit issuing authority that onsite controls have been considered and will be installed to the maximum extent practicable.

This legislation is critical and represents a first step model by the Commonwealth of Virginia for addressing nutrient pollution resulting from stormwater runoff. Although the DEQ point source program is designed to make significant contributions towards cleaning up the Bay, a significant amount of the excess nutrients entering the Bay is generated by nonpoint source pollution from stormwater runoff from agricultural and developed land. The legislation initiated by CBNLT provides an opportunity to reduce nonpoint nutrient pollution from both agricultural and developed lands.

Virginia Department of Conservation and Recreation - Offset Guidance

Following the successful passage of the Offset legislation, CBNLT served on the DCR-sponsored Technical Advisory Committee to provide real-world expertise regarding the ability of environmental credit markets to assist in the cleanup of the Bay watershed. This committee created agency guidance regarding the use of Offsets for stormwater impacts, and the resulting guidance was reviewed and unanimously approved by the Virginia Soil and Water Conservation Board (the "Board") on July 23, 2009. The approved guidance provides permit-issuing authorities and regulated entities with the mechanics for using Offsets to compensate for the nutrient loading attendant with permitted development activities. CBNLT was instrumental in the development of the guidance by providing the

workgroup with a detailed understanding about the real world mechanics, challenges and opportunities of environmental credit markets.

The resulting Offset guidance, coupled with the enabling legislation, provides a common-sense based opportunity for a private market to develop and substantially contribute to the reduction of nutrients entering the Bay. CBNLT has committed its resources to continue to join the Commonwealth, DCR, DEQ and other stakeholders as the guidance is implemented to ensure that it provides both the permit-issuing authorities and the regulated entities with a useful tool for reducing nutrient impacts to the Bay and its tributaries.

Benefits of Offsets

The use of nonpoint nutrient Offsets to compensate for stormwater impacts from development projects provides numerous environmental and economic benefits. In addition, Offsets have several advantages over many traditional and non-traditional Best Management Practices (BMPs), particularly when discussing many Low-Impact Development (LID) practices and Manufactured Treatment Devices (MTDs) associated with land disturbing activities.

- **BMP Maintenance and Monitoring** - Maintenance and monitoring of numerous BMPs, particularly those installed underground, is very difficult, time consuming and expensive. Both the localities and the State have acknowledged that they face difficult challenges when it comes to the inspection and enforcement of traditional, manufactured and LID BMPs. Offsets generated from the land conversion of agricultural lands to forest are much less expensive and easier to enforce than BMPs. In fact, Offset providers must verify to DCR and DEQ that the lands generating offsets are maintained in such condition so as to provide the associated nutrient reductions on an annual basis.
- **Long-Term Costs of BMPs** - The true long-term maintenance and monitoring costs of many BMPs will potentially be much higher than expected. There are also several issues regarding which party will bear those long-term costs. For example, BMPs installed in a subdivision are usually the liability of the Home Owner's Association, which raises many additional questions. Another example may include a commercial development whose ownership files for bankruptcy and leaves the locality with the expense of maintaining the on-site BMPs. The long-term cost for governments may include increases in taxes and infrastructure upkeep expense and exposure to increased liability related to BMP function and safety.
- **Technical Uncertainty of BMPs** - There is a degree of technical uncertainty regarding the efficiency of BMPs in removing nutrients from stormwater runoff. The variation in site-specific conditions, the quality of the installation, frequency of maintenance and other factors play a

significant role in how well any given technology removes nutrients from the runoff. There are also questions regarding the actual lifetime of many BMPs and to what extent the performance of the practice is degraded over that time. With Offsets, a land conversion removes one hundred percent of the difference in loading when transitioning from one land use (i.e., active cropland) to a less polluting one (forest).

- **Removal of Multiple Pollutants** - The transfer of Offsets for a development project involves the removal of multiple pollutants, i.e., both phosphorus and nitrogen are accounted for in the transfer even though phosphorus is the regulated pollutant in Virginia. As phosphorus is Virginia's keystone pollutant for the stormwater program, every time a phosphorus Offset is acquired, the associated nitrogen will be retired from inventory, providing nutrient removal benefits on multiple levels.
- **Offsets Exceed Existing Requirements** - Under Virginia's programs *nonpoint nutrient Offsets represent nutrient reductions in excess of those otherwise required by or funded under state or federal law or by tributary strategy plans*. This provides an added incentive to landowners to achieve tributary strategy and other "baseline" requirements and then go beyond those requirements through additional nutrient reduction strategies.
- **Offsets are Perpetually Protected** - Offsets generated from land conversion are protected from development or alteration to a more nutrient-intense land use through various perpetual legal mechanisms such as restrictive covenants or easements.
- **Offsets are Financially Assured** - Offsets are financially assured by the Offset provider until such time as the land conversion has been deemed to be established.
- **Offsets are Pre-Implemented** - Offsets represent verifiable and authorized on-the-ground nutrient reductions that are in place well in advance of the land disturbing activity that will need the Offset even occurring. For example, the Offsets created at Wildwood Farm, CBNLT's first authorized facility (and Virginia's as well), have been providing actual nutrient reductions for 24 months to date. As with Virginia's wetland and stream programs, environmental credits such as nutrient Offsets are providing ecological benefits in advance of their need, and will provide those benefits whether they are transferred or not, providing a "win-win" situation for the Commonwealth.
- **Offsets will not Contribute to Nutrient Impairments** - The legislation and guidance regulating the generation of Offsets in Virginia ensures that Offset generation will not negatively effect State waters that have been listed as nutrient impaired or with nutrient TMDL conditions.

- **Offsets Eliminate Leakage** - Prior to enactment of Virginia's Offset legislation, waivers could be granted to a permit applicant when it was difficult to capture nutrients onsite at a development project. In effect, this allowed uncontrolled nutrients to enter the Bay and its tributaries. The legislation now prohibits the granting of waivers unless there are no Offsets or other offsite controls available within the tributary-scale watershed.
- **Conservative Nature of Offsets** - The nutrient reductions created through the Offset program and the resulting number of Offsets are a conservative estimate based on the Bay Model for *delivered* loads to the Bay, with the result being that in reality, more nutrients are removed than are actually transferred to a permit applicant for a specific project.
- **Advantage Over Agricultural Programs** - Many of the funding programs that are in place to reduce nutrient run-off from agricultural lands have limited lifespan - payments may be made to a farmer to temporarily take lands out of production or modify equipment practices. This does not represent a long-term or permanent solution. Once the contract with the farmer has expired, the agricultural land could go back into production, once again adding nutrients to the Bay. Offsets on the other hand (i) do not require federal, state or local funding and (ii) are permanently protected under deed restriction or other preservation mechanism. The result is a permanent (as opposed to temporary) nutrient reduction at no cost (initial or reoccurring) to government.
- **Private Investment with Public Returns** - In conclusion, an operational Offset market will serve as a turnkey solution and will be funded through private investment and provide both private and public returns. From a private perspective, the landowner and Offset provider will receive compensation for developing a functional environmental service, and developers receive an opportunity to achieve required nutrient reductions through the addition of a potentially cost-effective method. The benefits to the public include improved economic, cultural and recreational conditions from enhanced water quality in the Bay, as well as providing additional business opportunities in the growing "green economy".

Moving Forward

Despite the many advantages this market-based approach provides, there are several significant issues to consider as the private sector strives to create a successful Offset market:

- Although environmental credit markets have been around for some time, nutrient Offsets are an innovative and novel approach to improving water quality. Clear endorsement and support of the use of Offsets by state and federal governments will be instrumental in addressing the level of

unfamiliarity and potential reluctance that permit issuing authorities, landowners and the development community may have toward the use of Offsets.

- Private Offset providers may be at a competitive disadvantage to localities if the localities decide to generate Offsets and apply them toward their own projects or those of the regulated community. Projects that are funded with public dollars do not operate under the same financial model that a private business does. Local government Offset prices would not reflect the actual costs incurred in the process of developing the Offsets. Tax dollars might end up paying for land acquisition, Offset-generating activities, monitoring, maintenance and reporting expenses, government employees and equipment and all other costs associated with the creation and sale of Offsets.
- It is essential to remember that Offsets should be in place and authorized prior to their need. These nutrient reductions have begun and continue to be in effect regardless of when the purchase of the associated Offsets occurs.
- Should a multi-state nutrient trading program develop it will be important to establish a level of equivalency between the states with regards to the generation of Offsets and the mechanics by which they are authorized for use and transferred in the market, therefore effectively creating a common currency.
- As federal funding is directed toward the cleanup of the Bay, it is important that the funds are distributed equitably. One approach may be to offer additional “first to market” funding for those states that are taking the lead in reducing their nutrient loading to the Bay through innovative and effective measures.
- It is important to note that there are certain barriers to an effective Offset market that legislation, regulations or guidance governing a nutrient trading program should be cognizant of:
 - Too narrowly defining a trading area (i.e., where Offsets could be purchased in relation to the nutrient load being compensated for);
 - Establishing Offset pricing structures – the market should determine the Offset price and will more efficiently account for costs;
 - Calculating nutrient reductions at too conservative a rate – provides a disincentive to the supply side of the market;
 - Being overly prescriptive in the creation and use of offsets.
- CBNLT will continue to work with the Secretary of Natural Resources office, DCR, DEQ and other stakeholders to develop additional innovative ways to use Offsets as an effective nutrient reduction

method. We need to all be creative in seeking potential uses for Offsets, as they will prove to be an essential component of the entire suite of nutrient reduction strategies. Examples include:

- In a situation where a BMP is not functioning sufficiently to remove the required nutrients, Offsets could be advantageous over retrofitting the BMP;
- Offsets could be used in an enforcement setting where BMPs are not installed, maintained or functioning properly;
- In addition to compensating for the mostly private development market, Offsets should be promoted for use with state, federal and local projects including transportation, revitalization projects and others, including existing impacts from development that pre-date modern stormwater control requirements; and
- It may even be possible for the local, state or federal government to take the lead and develop some form of “nutrient-neutral” or “nutrient-free” standard that would set the bar for all public and private entities to achieve the nutrient loading reductions necessary to restore the health of the Bay. Rather than simply meeting the required standard, entities could go above and beyond and account for their complete nutrient footprint.

Closing

As the Bay States strive to achieve the water quality goals for the Chesapeake Bay, the active participation of a private nutrient credit market will be essential. The implemented nutrient reduction Offsets will provide landowners with additional stewardship opportunities while encouraging land use alternatives that will contribute to improved water quality of the Bay and its tributaries. Furthermore, nutrient Offsets are verifiable on-the-ground nutrient reductions that are in place prior to a permittee’s nutrient impacts, providing a water quality benefit from the moment the Offset-generating activities are implemented.

Professional and personal experiences have led me and the CBNLT team to believe in the importance of a collaborative approach and an active stakeholder process in resolving complex environmental issues. As is exemplified by the core mission of CBNLT and ESS, we believe that a private business market, working within the appropriate regulatory framework, is the most effective approach to reducing nutrient pollution in the Chesapeake Bay. I hope that as this Subcommittee continues its legislative efforts towards the reauthorization of the Chesapeake Bay Program, that it carefully considers the opportunity for a public-private partnership and a market-based approach to significantly contribute towards improving the health of the Chesapeake Bay.

Thank you for the opportunity to provide these comments, and I encourage you to contact me if you have any questions regarding this testimony. CBNLT will ensure a commitment of time and resources to assist the Subcommittee and the Chesapeake Bay Program as it continues to consider this topic.

Thank you,

Brent L. Fults

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